Supposed crude jade from Alaska.

In *Science* for Dec. 19, 1884, there was given an abstract of the explorations on the Kowak River of Alaska by a party from the U. S. steamer Corwin, Lieut. Cantwell commanding. In this abstract it was stated that beds of a beautifully mottled serpentine were found in the mountains near the river, "as well as the so-called 'jade,' used far and wide for the most costly and elegant stone implements, which is perhaps the variety pectolite recently described by Clarke from specimens got at Point Barrow." It was also stated that 'Jade Mountain' seemed to be entirely composed of the green stone, about one hundred pounds of which were collected.

The collections on the return of the party were forwarded, as usual, to the national museum, as were also those made a little later from nearly the same localities by Lieut. Stoney's party. Both lots were referred to the writer for examination and report, and were found to consist largely of serpentine and a greenish gray quartzite, together with other miscellaneous material not necessary to mention here. The serpentine is mostly the ordinary green massive variety, though a few pieces of the columnar and fibrous forms picrolite and chrysotile are present. The quartz rock, which is doubtless the material mistaken by both parties for 'jade,' is light greenish in color, very fine grained, compact, and hard. Under the microscope, it is seen to be distinctly granular, but not perfectly homogeneous, containing innumerable exceedingly minute micaceous particles of a greenish color, and to the presence of which is doubtless due the color of the stone. There are also present many minute colorless needlelike crystals too small for accurate determination. Its specific gravity, as determined by a Jolly's balance, is 2.66, and a chemical test by Professor Clarke yielded 94.49% of silica. The rock is therefore radically different, not only from the Alaskan pectolite, but from any of the so-called 'jades' from any source that have yet been examined. An examination of the collections brought from Alaska has failed also to bring to light a single implement or ornament manufactured of this material: hence we must conclude that all the parties concerned were misled by the color and hardness of the stone, and that the true source of the so-called 'jade' is yet to be discovered.

GEO. P. MERRILL.

National museum, Feb. 28.

'What is a microscopist?'

You seem to have run short of subjects for 'Comment and criticism' in your issue of Feb. 27, for otherwise I cannot believe that you would have written your ill-natured remarks upon 'microscopists.' If you had confined yourself to the definition of a microscopist as "an amateur who rejoices in the beautiful variety of microscopical specimens," I should have offered no protest; for I recognize in that definition a truthful, though only partial, description of a class to which it has long been my pleasure to belong. If you had been content to express your belief that the term 'microscopy' is a misnomer, and that the large and growing body of so-called 'microscopists' is not to be regarded as a division of the 'regular army' of science, I should still have held a humble and respectful silence, because I can see how such an opinion may be very honestly and very plausibly maintained. But your remarks call for a protest on the ground, that, instead of helping to a true estimate of the scientific spirit, they set up narrow and exclusive standards, and are essentially and offensively personal.

Microscopists, as far as they are mere amateurs and 'universal gatherers,' may perhaps not be entitled to more consideration than is due to 'camp-followers' and 'hangers-on;' although I think there is possibly a question as to your right to give them notice to leave. I am not sure but that I might argue, with some success, that many microscopists are more than amateurs, or that many recognized scientific specialists are, after all, only skilled microscopists; but why dispute over mere names? I am one of those who believe that in the most effective use of the modern microscope there are required a degree of technical skill and an amount of special knowledge which raise it to the rank of a distinct scientific pursuit. You, on the contrary, appear to look upon the microscope as you do upon the tweezers, the scissors, or the hammer, — as an instrument so simple that any student in any department may take it up without previous special training in its use, and obtain from it at once trustworthy results. But I beg to inform you, if you do not already know it, that, in the more delicate kinds of microscopical work, it is absolutely essential to employ expert methods in manipulation, and to apply very particular principles of interpretation, or else the conclusions are likely to have no value whatever. The exhibition of pretty things because they are pretty, and for the mere amusement of lookers-on, is no more microscopy than the making and administering of laughing-gas is chemistry.

But you seem to infer that microscopists are not properly scientific men, since they are not generally specialists; and the ground of your inference appears to be that such microscopists as you have happened to know have directed their attention to very various objects obtained from the different realms of nature. But might not the same criticism be made upon chemists, who analyze and weigh every sort of substance, — animal, vegetable, and mineral? Why is it more legitimate for them to rest their science upon a basis of molecular and atomic weights than for others to build a microscopical science upon a system of micrometric measurements? I should not quarrel with you if you urged the expediency of restricting the term 'microscopy' to a branch of physics, or even of optics, because we may all fairly differ about questions of classification; but, as things now are, I cannot discover the force of your objection to the recognition of microscopy as a division of general science based upon the fact that the subjects of its investigation are beyond the range of unaided vision in one direction, since astronomy, whose right to the name of a science you probably do not question, is founded upon the fact that the objects of its study are beyond unaided vision in another direction. In both cases, it seems to me, the science is conditioned by its instrumental requirements. In one instance it is the science of the microscope, in the other it is the science of the telescope. Why not object to astronomy because of its foundation in 'a common quality' of remoteness in space, or to paleontology as based upon 'a common quality' of remoteness in time?

But I have no intention of endeavoring to justify a claim on behalf of microscopists to be admitted to the sect of orthodox scientific men. I merely wish to speak a good word for the class as it now stands. I am fortunate in being acquainted with a number of cultivated and educated men, both amateur and professional, who make constant use of the microscope, either in the pursuit of their regular business occupations or in their private intellectual life, and who take pains to keep informed as to the improve-